

Committee	EXECUTIVE	Item No.	
Report Title	TRAFFIC MANAGEMENT AND PEDESTRIAN FACILITIES		
Wards	All		
Contributors	REGENERATION (TRANSPORT & ENGINEERING; RESOURCES); HEAD OF LAW		
Class	PART 1	Date	25 JULY 2001

1. **Purpose of the Report**

1.1 To report to the Committee a priority list of traffic management and pedestrian facilities of which the top seven schemes are to be implemented this financial year.

2. **Policy Context**

2.1 The Council's current UDP policies for transport include an undertaking in **GEN.TRN 3** to:

Sustain a road system and to manage by restraint, road traffic and parked vehicles so as to:-

- Facilitate the movement of essential traffic only
- Improve the quality of the environment
- Improve access to premises
- Reduce the number and severity of road accidents and improve the safety of all road users

3. **Recommendations**

3.1 That the Committee agrees:

- (1) to agree the priority assessment criteria in **Appendix A** for traffic management measures, exclusive of formal pedestrian crossings.
- (2) to the priority list shown at **Appendix B** but notes the limited funding for this area of work and therefore the limited ability of officers to be able to respond to requests for action.
- (3) that £51.5K of the highways' budget be allocated for Traffic Management and Pedestrian Facilities.
- (4) that if any funding is identified via S106 or other external sources, items from the priority list are investigated and treated, even if this results in schemes being addressed out of priority.
- (5) that officers report back next year on additional requests received and action taken in respect of this year's priority list.
- (6) to the proposed criteria for the assessment of formal Pedestrian crossings as shown in **Appendix C**

4. **Background/Discussion**

4.1 The Executive Committee considered a report on the 24 January 2001 outlining the various types of traffic work presently being carried out. The report explained the proposed approach to deal with requests for action associated with traffic management, traffic calming and accident reduction schemes. Principally this sets up the Area Studies Programme, the Accident Investigation and Prevention Programme (AIP) and a priority list for Traffic Management and Pedestrian Facilities. This report deals with the last of these areas and seeks to explain the proposed prioritised approach to deal with requests for action which could not be dealt with under the Area Studies or AIP programmes. It is intended that the proposed prioritised list is reviewed regularly and reported to Executive Committee.

4.2 Although many requests have been made for minor traffic schemes a definitive priority list has not been maintained. However, a register of requests for new schemes has now been introduced. Parking, accident schemes and traffic calming are dealt with under separate policies and programmes.

Schemes implemented in last three years

4.3 Due to the lack of available funding only a limited number of schemes have been implemented in the last three years. These schemes were implemented using a priority road listing that incorporated traffic calming. The list below shows the schemes that have been implemented in the last three years (schemes that are primarily traffic calming and AIP schemes have not been listed as these are dealt with in the other two Committee reports pertaining to these areas):

- Downham Lane one way
- Goffers Road/Duke Humphreys Road modification of roundabout
- Stondon Park/Brockley Rise alterations to junction
- Perry Hill/Lescombe Road modification to junction
- Tanners Hill one way
- Lawrie Park Road pedestrian refuge
- Embleton Road pedestrian facilities
- Perry Vale pedestrian refuge
- Perry Vale/Perry Rise pedestrian facilities
- Eliot Hill one way and traffic management
- Cold Blow Lane modification of width restriction
- Clarendon Rise road closure modifications
- Brockley Grove Pedestrian Refuge
- Grotes Place modification of one way
- Mounts Pond road closure
- Lewisham Park one way

Priority Listing 2001/02

- 4.4 The number of requests for Traffic Management and Pedestrian Facilities to control and facilitate safer and easier movement by traffic, cyclists and pedestrians has continued to increase. However, the vast majority of new requests are turned down because of insufficient funding or the requests are not viable. Most of the measures requested are on the main road network and include measures such as banned turns, road islands, mini roundabouts, one-way working and pedestrian crossing facilities. However, with the limited funding for 2001/02 a priority listing has been devised to ensure that schemes are implemented where there are specific safety concerns or an acute traffic/pedestrian problem and that can be contained within the budget. Where possible, measures off the main road network will be dealt with as part of the area studies programme.
- 4.5 A list of sites where requests have been received from either residents, Members or via petitions and where a prima facie case for treatment exists has been compiled. The priority list together with the approximate cost of each scheme is shown as **Appendix B** to this report. The top eight schemes can be carried out this financial year as they fall within the proposed budget. The total estimated funding required to implement these schemes is £398,000. In order to introduce as many schemes as possible every avenue of potential funding will be explored e.g. Transport Programmes, Capital bids, S106 from new developments, Regeneration and Renewal programmes.
- 4.6 If finance can be identified from any other source for specific schemes from the priority list, then these will be pursued following consultation with the relevant Ward Members, even if this results in treating schemes lower down the priority ranking than currently being worked on. In this way the benefits of any opportunistic funding will not be lost whilst still ensuring a data based approach is applied to any Council funding available.
- 4.7 The Department of Transport issued Local Transport Notes 1/95 and 2/95 in April 1995, which provided up-to-date guidance on the assessment and design (respectively) of pedestrian crossings, which replaced the old PV² criteria. Based on this guidance new criteria for the assessment of pedestrian crossings is attached as **Appendix C** and approval is sought for these criteria. While the assessment is clearly somewhat involved, Members are asked to acknowledge that a wide range of factors are now taken into consideration in determining whether a pedestrian crossing is provided and can be used to rank the provision of pedestrian crossings in terms of priority.

5. Financial Implications

- 5.1 The Traffic Management Schemes revenue budget for 2001/2 is £314,000. At the Executive Committee of 21 March, it was agreed that £200,000 of this budget be spent on Traffic Calming measures. In addition, the Blackheath CPZ Review costs of £62,500 are being funded from this budget. Accordingly, only the balance of £51,500 should be set aside to finance Traffic Management and Pedestrian Facilities.

6. Legal Implications

The Council has a broad duty to maintain those highways for which it is responsible. The Council can also take pro-active steps in improving highways, by virtue of various powers given to it under the Highways Act 1980. The Road

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Traffic Regulation Act 1984 gives the Council the ability to provide pedestrian crossings, and introduce other measures that complement physical alterations to the roads themselves, such as speed limits or one-way restrictions. Both Acts give the Council implicit powers to incur expenditure to achieving those ends.

7. Implications for Cyclists and Pedestrians

7.1 The proposed schemes will reduce hazards and make the road environment more attractive for pedestrians and cyclists.

8. Implications for People with Disabilities

8.1 The proposed schemes should reduce hazards for blind and partially sighted people and for people with impaired mobility.

9. Equalities Implications

9.1 There are no equality implications arising out of these proposed traffic management measures.

10. Prevention of Crime & Disorder Implications

10.1 There are no implications for the prevention of crime & disorder.

If there are any queries on this report, please contact Tom Henry, Transport and Engineering, on 020 8314 2562.

Background Papers

<u>Short Title</u>	<u>Date</u>	<u>File Location</u>	<u>File Ref:</u>	<u>Contact Officer</u>	<u>Exempt Information</u>
List of minor traffic schemes	2001/02 List	Wearside Depot	HAT/Proforma /List of Traffic Schemes	Tom Henry	None

Appendix A.
Procedure for Assessment and Priority Rating for Traffic Management and Pedestrian Facilities

The schemes were prioritised using a weighted assessment criteria.
The criteria and weighting is listed in the following:

- Pedestrian Safety - Weighting 30
- Prevention of Rat Running – Weighting 10
- Prevention of Traffic Violations – Weighting 10
- Perceived Accident Risks – Weighting 30
- Scheme Viability – Weighting 20
- Scheme Cost
-

Schemes were assessed by Engineers to give a weighting value to each criteria listed above. The weighted values were added and divided by the estimated cost to give a total value, thus allowing a priority ranking to be made as in **Appendix B.**

Notes on Appendix B

1. The schemes are prioritised. All schemes and costings are subject to detail design. The costs are only budget estimates to give Members an indication of possible costs and these costs could vary. Following analysis it may not be possible to progress some schemes for engineering, cost or safety reasons.
2. Road Safety Schemes are not included in the above list and will be dealt with under the AIP programme.
3. Traffic Calming Schemes are not included in the above list and will be dealt with under the area based traffic calming programme.
4. Larger more expensive schemes above £50,000 are not included in the list and where appropriate will be dealt with via the Transport Plan submission.
5. Formal pedestrian crossings will be assessed using the criteria in Appendix C.

APPENDIX C

ASSESSMENT OF FORMAL PEDESTRIAN CROSSINGS

1.0 Background

- 1.1 In April 1995, the Department of Transport (DoT) issued Local Transport Notes 1/95 and 2/95, which provided up-to-date guidance on the assessment and design (respectively) of pedestrian crossings. These guidance notes vary from the previous government advice significantly, with a more thorough yet flexible approach being advocated. The guidance is solely aimed at zebra and pelican crossing so does not alter the current criteria for pedestrian facilities at signal controlled junctions.
- 1.2 The old Department of Transport guidance suggested that formal pedestrian crossing facilities should be assessed on the basis of the PV^2 value (the factor of the square of the vehicle flow [V] at the location and the volume of pedestrians crossing [P]). If the arithmetic average of the four highest hourly values over a typical day exceeded 1×10^8 , a formal crossing facility would usually be justified. The priority rating for potential schemes in the Traffic Management and Pedestrian Facilities budget is often related to this PV^2 value.

2.0 Assessing the Need for a Pedestrian Crossing

- 2.1 The more recent government guidance includes advice on the type of information required to assess the suitability of sites for new pedestrian crossings or changes to the type of crossings. The information to be collected includes physical site characteristics, the numbers of pedestrians crossing the road, vehicle traffic and accident statistics.
- 2.2 The guidance recommends that all options for the future provision of a pedestrian crossing should be examined. The main options are generally:-
 - (i) 'do nothing';
 - (ii) traffic management - for example providing a refuge island, narrowing the carriageway or installing traffic calming;
 - (iii) installing a zebra crossing;
 - (iv) installing a signal-controlled crossing. There are three types of signal-controlled crossing permissible under current regulations; these are normal pelican crossings, puffin crossings (which include pedestrian and vehicle detectors to extend or cancel pedestrian phases, according to pedestrian demand) and toucan crossings (which allow cyclists to cross roads without dismounting). In addition there can be a pedestrian phase at signal controlled junctions but these are not being considered in this report.

Factors relevant to the choice of the crossing facility could include the difficulty in crossing, vehicle delays during peak periods, carriageway capacity, local representations, installation and maintenance costs and the vehicle speeds.

- 2.3 The new guidance confirms that signal controlled crossings (not including a pedestrian phase at a signal controlled junction) are not the optimum solution in many cases. It confirms that signal controlled crossings should be used where:

- vehicle speeds are high (85 percentile speed 35 mph or above) and other options are thought unsuitable;
- there is normally a greater than average proportion of elderly or disabled pedestrians;
- vehicle flows are very high (over 15,000 vehicles per day) and pedestrians have difficulty in asserting precedence;
- there is a specific need for a crossing for cyclists or pedestrians;
- pedestrians could be confused by traffic management measures such as a contra-flow bus lane;
- there is a need to link with adjacent controlled junctions or crossings;
- pedestrian flows are high and delays to vehicular traffic would otherwise be excessive.

2.4 The guidance confirms that in other locations, where traffic flows are moderate and pedestrian flows not sufficiently high to seriously delay traffic, zebra crossings are often the most appropriate type of crossing. In the past there have been some safety problems with a few zebra crossings in unsuitable locations, but the evidence is that, in the appropriate locations, zebra crossings are as safe as signal controlled crossings. Indeed, in many cases signal controlled crossings are not appropriate, since pedestrians will frequently cross against a 'red man' if there is a break in the traffic. If a pelican is lightly used, drivers can get so used to the crossing being on green for vehicles that they start to treat it with contempt.

2.5 The guidance also confirms the importance of installation and maintenance costs in making the decision about which option to choose. Zebra crossings generally cost less than half the price of signal controlled crossings and are cheaper to maintain. In view of the budgetary limitations, the cost of providing a crossing and its long-term maintenance needs to be considered as part of the design process.

3.0 **Proposal**

3.1 As a consequence of the new government guidance the priority rating technique used in the London Borough of Lewisham needs to be addressed. It is proposed that an assessment for the need for a formal pedestrian facility should comprise of the three following elements:

1. The PV^2 (P=pedestrians, V=vehicles) value should remain as a base for the assessment, since it is a measure of the degree of pedestrian-vehicle conflict, is relatively quick to undertake and serves as a good initial quantifiable measure. Personal Injury accidents, particularly those involving pedestrians need to be taken into account as this again is a good quantifiable measure.
2. Adjustment factors should be used to take into account the proportion of elderly pedestrians, the proportion of unaccompanied children, the proportion of pedestrians with prams and pushchairs, the carriageway width, the time pedestrians spend waiting to cross and crossing the road and vehicle speed.

3. The cost of individual proposals should be included so that the relative value for money between scheme options can be assessed.
- 3.2 The details of the proposed new assessment and priority rating procedures are discussed below.
- 3.3 These changes to the assessment and priority rating of potential pedestrian crossings should allow greater flexibility in responding to individual cases and ensure that the most appropriate and cost effective facilities are provided. Resources continue to constrain the number of requests for facilities, which can be met, and priority assessment is crucial in order to establish the most deserving cases. It is proposed that initial assessments will be undertaken by using the PV^2 criteria and the more extensive assessment only carried out if it was felt that there was likely to be a reasonable case or if there were particularly special site circumstances prevailing which needed to be assessed.
- 4.0 **Pedestrian Crossings: Procedure for Assessment and Priority Rating**
- 4.1 The Local Transport Notes 1/95 and 2/95 on the Assessment and Design of Pedestrian Crossings suggest that a flexible yet rigorous approach should be adopted to the appraisal of potential pedestrian crossings. A five step procedure for crossing assessment enables the new guidance to be implemented.

Step One: Initial Traffic Survey

- 4.2 An initial twelve hour (7am to 7pm) survey should be carried out, with the following information being collected for each half hour:
 1. volume of traffic (split by carriageway if road a dual carriageway);
 2. volume of crossing pedestrians (including cyclists if a toucan crossing is under consideration) within 50 metres of the possible crossing site.

In the pedestrian count the following information would need to be collected over the whole twelve hours.

3. proportion of elderly people;
 4. proportion of pedestrians with prams/pushchairs;
 5. proportion of unaccompanied children under 16;
 6. number of visually impaired pedestrians;
 7. number of pedestrians with severe mobility problems;
 8. number of crossing cyclists.
- 4.3 For each hour the volume of crossing pedestrians (P) multiplied by the square of the traffic volume on the carriageway (V). The arithmetic average of the PV^2 values for the four highest hours should be calculated. A specimen calculation is shown at Table 1. If the calculated value of PV^2 is 0.5×10^8 or less, no further work is required and the scheme should be rejected as unjustified. If the PV^2 value is greater than 0.5×10^8 , the further steps should be undertaken.

Step Two Site Visit and Site Assessment Record

- 4.4 The site assessment record, an example of which is shown below, should be completed in all respects. It is a useful record to produce because it highlights potential problems connected with the removal of parking, relocation of bus stops, lighting, nearby junctions. etc. The information contained in the site assessment record consists of:-
- site characteristics, which are generally background considerations for design; pedestrian crossing/information, which is generally incorporated in the priority value formula;
 - vehicle traffic information, which is incorporated in the priority rating formula;
 - Accident Information.
- 4.5 Besides the initial traffic survey information, a site visit must be made to allow the site assessment record to be completed. The information on site characteristics, which needs to be collected includes carriageway widths, visibility and parking restrictions.
- 4.6 Besides the site characteristics, two pieces of information need to be measured on site. Firstly the time taken to cross the road (including waiting time) for samples of able-bodied and elderly pedestrians. If an estimate of the vehicle speed reliably places the speed either under 30 mph, between 30mph and 35mph, between 35 and 40 mph or over 40mph; a speed count is not essential.
- 4.7 Judgements ensuing from the site visit are required for two further characteristics. Firstly, an assessment of the difficulty of crossing and secondly an estimate of the latent crossing demands are needed. These characteristics are difficult to assess and a subjective estimate based on site observations should be made.

Step Three: Site and Option Assessment Frameworks

- 4.8 Based on the site visit and the completed site assessment record, an assessment framework, consisting of two parts - one relating to the site and the other to possible options - should be filled in. An example is shown below. The site assessment framework summarises the information collected in the site assessment record. The option assessment framework summarises the key features of all possible types of pedestrian crossing, including doing nothing. In appropriate cases an option for a school crossing patrol should be included.
- 4.9 The option assessment framework includes an estimate of delays to vehicles and pedestrians with different crossing options as well as a summary of local and police representations. Rough estimates of the operating and installation costs of all options considered need to be made. In many cases standard cost estimates may be used for the options, unless there are circumstances evident from the site visit which could cause the option costs to differ significantly from the standard cases.

4.10 The following 'standard' cost estimates should be used:

Pedestrian Refuge Island:	£ 5,000
Zebra Crossing:	£15,000
Pelican or Puffin Crossing:	£28,000
Toucan Crossing:	£30,000

Maintenance costs are likely to be £1000 per year for signalled crossings and £200 per year for zebra crossings.

Step Four: Selection of Preferred Option

- 4.11 The preferred option which could be to do nothing, should be selected on the basis of the site and option assessment frameworks. School crossing patrols, which may or may not operate in conjunction with formal crossing facilities, could be the best solution where most pedestrians are school children crossing the road during short periods of the day.
- 4.12 On the choice between the types of formal crossings (i.e. zebra or signal controlled), zebra crossings should be installed, as they are cheaper to install and maintain, unless a clear case for a signal controlled crossing can be made. Reasons for selecting signal controlled crossing in preference to zebras, include:
- visibility problems;
 - crossing within 100 metres of an existing pelican/set of traffic signals or within an area of urban traffic control;
 - approach speeds of 35mph or above;
 - high percentage of blind or partially sighted pedestrians;
 - very high flows of pedestrians crossing, which would unduly delay vehicles at a zebra crossing;
 - high vehicle flows (over about 15,000 vehicles per day)
- 4.13 Where the conditions preclude the provision of formal crossings or where the PV² formula indicates a relatively low justification, refuge islands should be considered or school crossing patrol if the problem is children crossing when going/leaving school.
- 4.14 Once a preferred option has been selected, a robust cost estimate should be made. A drawing with stage one technical approval should be produced. The option should then be ascribed a priority rating.

Step Five: Priority Rating

- 4.15 The priority rating of a scheme is based on the PV² value, adjusted for certain site factors and further adjusted for the estimated cost of the scheme. Six adjustment factors should be used, the required information being available from the site assessment record:
- (i) percentage of pedestrians who are elderly (E) - if less or equal to 15% use a factor of 1, if more than 15% use percentage plus 100 all divided by 115-i.e. $(100+E)/115$;

- (ii) percentage of pedestrians who are unaccompanied children (C) - if less or equal to 15% use a factor of 1, if more than 15%, use percentage plus 100 all divided by 115 - i.e. $(100+C)/115$;
- (iii) percentage of pedestrians with prams and pushchairs (P) - if less or equal to 5% use a factor of 1, if more than 5%. use double the percentage over 5% plus 100 all divided by 105 - i.e. $(100+2P)/105$;
- (iv) width of road (W) - if less or equal to 7.3 metres use a factor of 1, if more than 7.3 metres use width divided by 7.3. If road already divided use half the total width for this assessment;
- (v) time spent crossing the road (T) - if average of whole observed sample is less or equal to 20 seconds use a factor of 1, if 20 to 40 seconds use 1.2, if 40 to 60 seconds use 1.4 and if over 60 seconds use 1.6 for this assessment;
- (vi) vehicle speed (S) - if 85th percentile under 30 mph use, 1, if 30 to 40 mph use 1.1 and if over 40 mph use 1.4.

4.16 The cumulative impact of the factors should not be more than double the 'PV²' value. This factoring system ensures that the information contained in the new DoT assessment is reflected in the priority assessment system. Some of the numerical values may need adjustment as the priority rating is developed. There is no adjustment for latent demand, which is too difficult to quantify reliably.

4.17 The adjusted 'PV²' value should then be multiplied by the ratio of the standard cost of the crossing type (£5,000 for a pedestrian refuge island, £15,000 for a zebra crossing, £28,000 for a pelican or puffin crossing and £30,000 for a toucan crossing) to the estimated cost of the particular scheme. Thus a link between costs and benefits is established, as is the case for all other types of proposed small improvement.

4.18 To guard against unrealistically low estimated costs giving a proposal an unrealistically high priority number, low cost estimates will require a rigorous explanation on an individual basis. For cost estimates of under £3,000 for pedestrian refuges, £10,000 for zebra crossings and £25,000 for signal controlled crossings, a clear written explanation for the estimates is required. The priority ratings for such schemes which do not have an explanation or an inadequate explanation of the low cost estimates, will be revised to values based on the standard costs.

4.19 In summary the priority rating for pedestrian facilities can be calculated as follows:

$PV^2 \times 10^8 \times 100 \times \text{adj. factors } (*) \times \frac{\text{standard cost of crossing type}}{\text{estimated cost}}$

Where $(*) = \frac{(100+E)}{115} \times \frac{(100+C)}{115} \times \frac{(100+2P)}{105} \times \frac{W}{7.3} \times T \times S$
(or 1)

in Which E=% of Elderly) Within ped.flow
C=% of Unaccompanied Children) (Use 1 if expression
P=% of Prams/Pushchairs) <1)
W= Carriageway Width
T=Time Spent Crossing Road Factor (Value 1, 1.2, 1.4 or 1.6
S=Vehicle Speed Factor (Value 1, 1.1 or 1.4
and (*) = 2 at most]

4.20 Any pedestrian crossing proposals, resulting from Accident Investigation and Prevention should be allocated priority ratings on the basis of Accident savings alone.

Table 1

PEDESTRIAN CROSSING REQUEST PV ² SURVEY RESULTS			
SITE: TEST SITE LEWISHAM			
SURVEY DATE:		1.11.2000	
TIME	P	V	PV ² /10 ⁸
0700-0800	0	0	0.00
0800-0900	39	1114	0.48
0900-1000	43	1802	1.40
1000-1100	0	0	0.00
1100-1200	0	0	0.00
1200-1300	87	1418	1.75
1300-1400	92	1640	2.47
1400-1500	0	0	0.00
1500-1600	0	0	0.00
1600-1700	67	1442	1.39
1700-18--	31	1462	0.66
1800-1900	0	0	0.00
P AND V FOR FOUR HIGHEST VALUES OF PV ² /10 ⁸			
TIME	P	V	PV ² /10 ⁸
1300-1400	92	1640	2.47
1200-1300	87	1418	1.75
0900-1000	43	1802	1.40
1600-1700	67	1442	1.39
FINAL VALUE OF PV ² /10 ⁸			1.75

EXAMPLE SITE ASSESSMENT RECORD

This checklist and record sheet is recommended for use when assessing the need for an at-grade pedestrian crossing or changing an existing pedestrian crossing for another type

SITE CHARACTERISTICS			
1.1	Site Location	Description Ordnance Survey Grid Reference	
1.2	Carriageway Type	Single One Way Number of Lanes	Double Two Way
1.3	Carriageway Width	Metres	
1.4	Footway Width	Side 1 metres Side 2 metres	
1.5	Refuge Island	Yes	No
1.6	Road Lighting Standard	Category	
	BS5489 classification	Yes	No
	Is lighting to above standard	Yes	No
	Any re-arrangement necessary?	Yes	No
	Better lighting standard needed?	Yes	No
	Supplementary lighting needed?	Yes	No
1.7	Minimum Visibility	Direction 1	Metres
	Pedestrian to Vehicle	Direction 2	Metres
		Direction 1	Metres
	Vehicle to crossing	Direction 2	Metres
1.8	Waiting/Loading/Stopping Restrictions		
	At prospective site	Yes	No
	Within 50 metres of the site	Yes	No
1.9	Public Transport Stopping Points		
	At prospective site	Yes	No
	Within 50 metres of the site	Yes	No
	Relationship to crossing [in direction of travel]	Direction 1	Approach/exit
		Direction 2	Approach/exit
1.10	Nearby Junctions		
	Distance to nearest significant traffic junction	Direction 1	Metres
		Direction 2	Metres
1.11	Other Pedestrian Crossings		
	Distance to next crossing	Direction 1	metres
		Direction 2	metres
	Type of crossing	Zebra/Pelican/Puffin/Toucan/Other	
1.12	School Crossing Patrol		
	Distance if less than 100 metres	Metres	

1.13	Skid Risk Does surface meet skid resistance requirements	Yes	No
1.14	Surroundings (entrances within 100 metres) Hospital/Sheltered housing/Workshop for disabled people School Post Office Railway/Bus Station Pedestrian leisure/shopping area Sports stadia/entertainment venue Junction with cycle route Equestrian centre or junction with Bridle Path Others (for example a Fire Station)	Yes Yes Yes Yes Yes Yes Yes Yes	No No No No No No No No
PEDESTRIAN CROSSING INFORMATION			
2.1	Flow and Composition Pedestrian count Prms/pushchairs Percent elderly Unaccompanied young children Severe mobility difficulties Visually impaired Crossing cyclists Equestrians Others		number per -- hours % % % number per day number per day number per day number per day number per day
2.2	Time to cross the road (measured sample) Able pedestrians Elderly or disabled people		seconds seconds
2.3	Difficulty of Crossing Able pedestrians Elderly or disabled people (Units as for selected method)		
2.4	Latent Crossing Demand Estimate		Unlikely/number per -- hours
VEHICLE TRAFFIC INFORMATION			
3.1	Flow and Composition Vehicle count Cyclists Heavy goods vehicles Public service vehicles		number per -- hours number per day % number per day
3.2	Vehicle Speed 85 percentile Speed limit		m.p.h. m.p.h.

ACCIDENTS INFORMATION

4.1	Mean Personal Injury Accident Frequency	
	Number per year at site (over 5 years if available)	P.I. accidents/year
	Number per year at an average local site (over 5 years if available)	P.I. accidents/year

EXAMPLE ASSESSMENT Framework

SITE ASSESSMENT

Characteristic	Data and comments at 31 November 2000
Location	The site at XXXX is a single two way, 2 lane (each approach) carriageway, total width 11.3 metres with 2.5, 2.3 metre footways.
Highways Facilities	Road lighting is recent to a traffic route standard and no re-arrangement is needed. The road surface gives adequate skid resistance.
Visibility	Desirable visibility standards can be met. There is no need to further restrict parking, on visibility grounds, and the road is not a bus route.
Complexity	There are no road junctions, other pedestrian crossings, public buildings or facilities, other than the local primary school, within 250 metres.
Crossing traffic	About 1250 people cross the road daily with an average breakdown into groups. Crossing time and difficulty of crossing are typical for roads of this character in this area.
Vehicles	5600 vehicles a day with 2% of heavy goods. Highest two way peak hour flow 985. Highest 85 percentile in peak periods is 33mph. There is a 30mph speed limit.
Road accidents	There were 2 P.I. accidents in 1999, none in the previous 4 years. None have been recorded this year.

OPTION ASSESSMENT

Factor	Do Nothing	Refuge Island	Zebra	Signalled Crossing
Difficulty of crossing, average wait in seconds	20 (able)/120 (elderly) in peak periods	15 (able/40 (elderly) in peak periods	1 to 3 for all groups	1 to 3 after end of vehicle minimum green period
Vehicle Delay in peak periods	None	None	3 stops/minute of 10 seconds	2 stops/minute of 12 seconds
Road Capacity	Not reduced	Not reduced	50% reduction	40% reduction
Representations	Police suggest consideration of speed reduction measures may be correct course of action	Police do not favour because of uncontrolled bunching of school children on island.	Local elected representatives think best balance between needs and costs	Public petition and individual letters favour to meet safety needs of children, elderly and disabled people. Stimulated by accident to girl on crutches after other incidents in 1999
Installation cost	None at this stage	1000	15000	20000
Operating cost		100	300	2000